

Claims

WHAT IS CLAIMED IS:

1. A method for inhibiting the activity of COX-2 in
an organism, the method comprising the step of administering
5 to the organism a composition comprising a therapeutically
or prophylactically effective amount of an organic extract
of a non-edible plant, wherein the plant is selected from
the order consisting of Arales, Asterales, Coniferales,
Equisetales, Euphorbiales, Geraniales, Lamiales, Lillales,
10 Pteridophyta, Ranales, Rhamnales, Rutales, Scrophulariales,
Umbellales, and Urticales.

2. The method of claim 1 wherein the inhibitory
effect of the extract on COX-2 activity is greater than or
equal to about 2 times greater than the inhibitory effect of
15 the extract on COX-1 activity.

3. The method of claim 1 wherein the inhibitory
effect of the extract on COX-2 activity is greater than or
equal to about 10 times greater than the inhibitory effect
of the extract on COX-1 activity.

20 4. The method of claim 1 wherein the organic extract
of the Arales order is selected from the plant family
Araceae.

5. The method of claim 4 wherein the organic extract
of the Araceae family is from the genus Arisaema.

25 6. The method of claim 1 wherein the organic extract
of the Asterales order is selected from the plant family
Asteraceae.

7. The method of claim 6 wherein the organic extract of the Asteraceae family is selected from the genera consisting of *Artemisia*, *Microglossa*, *Senecio*, *Sigesbeckia*, and *Spilanthes*.

5 8. The method of claim 1 wherein the organic extract of the Coniferales order is selected from the plant family Cupressaceae.

9. The method of claim 8 wherein the organic extract of the Cupressaceae family is selected from the genus *Biota*.

10 10. The method of claim 1 wherein the organic extract of the Equisetales order is selected from the plant family Equisetaceae.

11. The method of claim 10 wherein the organic extract of the Equisetaceae family is selected from the genus
15 Equisetum.

12. The method of claim 1 wherein the organic extract of the Euphorbiales order is selected from the plant family Euphorbiaceae.

13. The method of claim 12 wherein the organic extract
20 of the Euphorbiaceae family is from the genera consisting of *Acalypha* and *Phyllanthus*.

14. The method of claim 1 wherein the organic extract of the Geraniales order is selected from the plant family Geraniaceae.

25 15. The method of claim 14 wherein the organic extract of the Geraniaceae family is from the genus *Geranium*.

16. The method of claim 1 wherein the organic extract of the Lamiales order is selected from the plant family Lamiaceae.

15 17. The method of claim 16 wherein the organic extract of the Lamiaceae family is selected from the genera consisting of Salvia and Solenostemon.

18. The method of claim 1 wherein the organic extract of the Liliales order is selected from the plant family Liliaceae.

10 19. The method of claim 18 wherein the organic extract of the Liliaceae family is from the genus Paris.

20. The method of claim 1 wherein the organic extract of the Pteridophyta order is selected from the plant family Polypodiaceae.

15 21. The method of claim 20 wherein the organic extract of the Polypodiaceae family is from the genus Platycerium.

22. The method of claim 1 wherein the organic extract of the Ranales order is selected from the plant families consisting of Berberidaceae and Ranunculaceae.

20 23. The method of claim 22 wherein the organic extract of the Berberidaceae family is from the genus Mahonia.

24. The method of claim 22 wherein the organic extract of the Ranunculaceae family is selected from the genera consisting of Clematis, Hydrastis, and Ranunculus.

25 25. The method of claim 1 wherein the organic extract of the Rhamnales order is selected from the plant families consisting of Rhamnaceae and Vitaceae.

26. The method of claim 25 wherein the organic extract of the Rhamnaceae family is from the genus Rhamnus.

27. The method of claim 25 wherein the organic extract of the Vitaceae family is from the genus Cyphostemma.

5 28. The method of claim 1 wherein the organic extract of the Rurales order is from the plant family Rutaceae.

29. The method of claim 28 wherein the organic extract of the Rutaceae family is from the genus Zanthoxylum.

30. The method of claim 1 wherein the organic extract
10 of the Scrophulariales order is from the plant family Acanthaceae.

31. The method of claim 30 wherein the organic extract of the Acanthaceae family is from the genus Justicia.

15 32. The method of claim 1 wherein the organic extract of the Umbellales order is selected from the plant family Apiaceae.

33. The method of claim 32 wherein the organic extract of the Apiaceae family is from the genus Angelica.

20 34. The method of claim 1 wherein the organic extract of the Urticales order is from the plant family Urticaceae.

35. The method of claim 34 wherein the organic extract of the Urticaceae family is from the genus Fleurya.

25 36. The method of claim 1 wherein the organic extract is a purified composition obtained by a method comprising:

(a) contacting the plant with an organic solvent to remove an extract from the plant wherein the extract inhibits COX-2 activity; and

5 (b) isolating the extract with COX-2 inhibitory activity.

37. The method of claim 36 wherein the extract selectively inhibits COX-2 activity.

38. The method of claim 36 wherein step (a) further
10 comprises mixing the plant with the organic solvent and stirring the resulting mixture at a temperature between about 25° C and the boiling point of said solvent for at least one minute.

39. The method of claim 36 wherein the organic solvent
15 is selected from the group consisting of hydrocarbon solvents, ethers, chlorinated solvents, acetone, ethyl acetate, butanol, ethanol, methanol, isopropyl alcohol and mixtures thereof.

40. The method of claim 36 wherein the organic solvent
20 is non-polar.

41. The method of claim 40 wherein the non-polar organic solvent is dichloromethane or hexane.

42. The method of claim 36 wherein step (b) further
25 comprises separating the solvent from the organic extract by evaporating the solvent.

43. A method of treating or preventing COX-2 mediated inflammation or an inflammation-associated disorder in an organism, the method comprising administering to the
30 organism a composition comprising a therapeutically or

prophylactically effective amount of the purified composition according to claim 36.

44. The method of claim 43 wherein the inflammation-associated disorder is arthritis.

5 45. The method of claim 43 wherein the inflammation-associated disorder is pain.

46. The method of claim 43 wherein the inflammation-associated disorder is fever.

47. The method of claim 43 for use in the treatment or
10 prevention of cancer.

48. The method of claim 47 wherein the cancer is epithelial cell cancer.

49. The method of claim 48 wherein the epithelial cell cancer is colon, breast, prostate, bladder, or lung cancer.

15 50. The method of claim 43 for use in the treatment or prevention of central nervous system disorders.

51. The method of claim 50 wherein the central nervous system disorder is Alzheimer's Disease.

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